

REMARKS

The present Amendment is in response to the Examiner's Office Action mailed November 28, 2005. Claims 1-22 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

I. CLAIM REJECTIONS

A. Rejection Under 35 U.S.C. § 103

The Examiner rejects claims 1-8, 10-12, 14, 16, and 18-22 under 35 U.S.C. § 103 as being unpatentable over *Boucart et al.* (U.S. Patent No. 6,493,372) in view of *Moser et al.* (U.S. Patent Application Pub. No. 2003/0103543).

According to the applicable statute, a claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2005); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); MPEP 2142. Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18; *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999). It is the initial burden of the PTO to

demonstrate a prima facie case of obviousness, which requires the PTO to show that the relied upon references teach or suggest all of the limitations of the claims. MPEP 2142 (emphasis added).

Applicants traverse the Examiner's rejection for obviousness on the grounds that the Examiner's combination of *Boucart* with *Moser* is improper for lack of suggestion for the proposed combination. The prior art must teach or suggest making a modification to the prior art in order to render a claimed invention obvious. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In other words, one must be **motivated** by the prior art to make the modification necessary to arrive at the present invention. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). Absent such motivation, a rejection based on a combination of references is unsupported and any rejection based on such a combination must be withdrawn.

"[The Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *In re Warner*, 154, USPQ 173, 178 (CCPA 1967). Missing from the combination of *Boucart* and *Moser* is the "logical reason apparent from positive, concrete evidence of record" (*In re Regel*, 188 USPQ 136, 139 n.5 (CCPA 1975) (emphasis added)) why one of ordinary skill in the art would have been motivated to construct a tunnel junction with a p-layer that includes GaPSb or AlGaPSb as set forth in independent claims 1, 12, and 18. The PTO cannot simply make conclusions based on its own understanding or experience – or on its allegation of what would be basic knowledge or common sense. Rather, the PTO must point to some concrete evidence in the record in support of the findings. *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (emphasis added; footnote omitted).

On the outset, the Applicant notes that the Examiner refers to both reference 20 and reference 22 as tunnel junctions. However, in *Boucart*, 22 is referred to as an oxide layer, while references 22 and 26 are referred to as first and second tunnel junctions respectively. Even still, *Boucart* does not disclose a p-layer of the tunnel junction including GaPSb or AlGaPSb as set forth in claims 1, 12, and 18. Rather, according to the Examiner on page 2 of the Office Action, "GaPSB and AlGaPSB, as well as their respective properties, are both well known in the art, as is evidenced by Moser (table 1). Therefore at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize such materials in the p-layer of the tunnel

junction of *Boucart*. The motivation for doing so would have been to provide a layer with advantageous properties, such as a specific electrical or thermal conductivity.” (Emphasis added). Table 1, however, merely shows the compound “AlGaPSb” in relation to DBR high refractive index quarter-wavelength layers. However, the Applicant has not been able to find the compound “GaPSb” at all in Table 1 as purported by the Examiner. Because the Examiner is required to “clearly communicate the findings, conclusions and reasons which support [the rejections]” (MPEP 2106 VII), the Applicants request such clarity and specificity in future office actions as to where the element “GaPSB” can be found in Table 1 of *Moser*.

It is well established that the mere fact that something is “well-known” cannot serve as a substitute for motivation. *See In re Sponnovle*, 160 USPQ 237, 243 (CCPA 1969) (emphasis added) (“a patentable invention, within the ambit of 35 U.S.C. §103, may result even if the invention has, in effect, merely combined features, old in the art, for their known purpose, without producing anything beyond the results inherent in their use.”); *also see In re Warner*, 154 USPQ 173, 177 (CCPA 1967) which clearly establishes that the question is never simply what is old; rather, the question is the obviousness of bringing the elements claimed in combination together. Accordingly, merely asserting that particular features of the claims are “old” or “well-known” in the art does nothing to establish a reason why the artisan would have been led to combine such features and, thus, does not inherently establish obviousness. Thus, the motivation relied upon in the rejection of claims 1, 2, 6-8, 12, 14, 16, and 19 as “well known” does nothing to establish a reason why the artisan would have been led to combine such features, which is required to support a *prima facie* case of obviousness. As such, the Applicant respectfully requests that the rejection of claims 1, 2, 6-8, 12, 14, 16, and 19 be withdrawn.

Rather, it appears clear that the Examiner has used the Applicant’s claims as a blueprint to pick and choose only so much from *Boucart* and *Moser* as deemed necessary to reject the Applicant’s claims by engaging in impermissible hindsight reconstruction. It is also well established that it is error to reconstruct the Patentee’s claimed invention from the prior art by using the patentee’s claim as a “blueprint.” When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the invention itself. It is critical to

understand the particular results achieved by the new combination. *Interconnect Planning Corp v. Feil*, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985).

Moreover, Applicant notes that it appears that the Examiner is relying on personal knowledge as a source of motivation for rejecting claims 1-8, 10-12, 14, 16, and 18-22. In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all references(s), other than those that have been specifically cited by the Examiner, upon which the obviousness rejection of claims 1-8, 10-12, 14, 16, and 18-22 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 1-8, 10-12, 14, 16, and 18-22. In particular, the Applicant requests such affidavit describing in the detail required by 37 C.F.R. 1.104(d)(2) as to the source of the motivation for the proposed modifications of *Boucart*. If such motivation exists in the references, or in the personal knowledge of the Examiner, the Applicant requests that such source(s) be clearly set forth.

Most, if not all, inventions arise from a combination of old elements. *See In re Kotzab*, 214 F.3d 1365 (Fed. Cir. 2000). "That all elements of an invention may have been old... is however, simply irrelevant. Virtually all inventions are combinations and virtually all are combinations of old elements." *Intel Corp. v. U.S. Int'l Trade Comm.*, 946 F.2d 821, 842 (Fed. Cir. 1991) (emphasis added). Thus, the office action simply has not established a *prima facie* case of obviousness with respect to independent claims 1, 12, and 18. As such, the Applicant respectfully requests that the rejections of claims 1, 12, and 18 be withdrawn. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Therefore, the Applicant respectfully requests that the rejection of claims 2-11, 13-17, and 19-22 be withdrawn at least for the same reasons as independent claims 1, 12, and 18.

The Examiner rejects claims 9, 13, 15, and 17 under 35 U.S.C. § 103 as being unpatentable over *Boucart et al.* in view of *Moser et al.*, further in view of *Choquette et al.* (U.S. Patent No. 6,931,042). Claims 9, 13, 15, and 17 depend from independent claims 1 or 12. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is

nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As such, the applicant respectfully request that the rejection of claims 9, 13, 15, and 17 be withdrawn at least for the same reasons as that set forth above regarding claim 1 or 12.

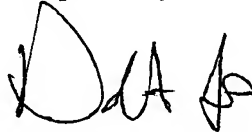
The applicant further notes that, consistent with that discussed above, the sole motivation relied upon in the office action to reject claims 9, 13, 15, and 17 are conclusory and unsupported statements of motivation for the proposed combinations of references that such elements are “well known” in the art. As discussed above such statements alone do nothing to establish obviousness. As such, the applicants request receipt of the Examiner affidavit described above to support the Examiner’s statements based on personal knowledge, concrete evidence of record for such motivation, or withdrawal of the rejection of claims 9, 13, 15, and 17.

CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 28 day of February, 2006.

Respectfully submitted,



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